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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/684,076	10/08/2000	Jonathan Cherneff	0544MH-36339	2872

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EXAMINER

STIMPAK, JOHNNA

ART UNIT	PAPER NUMBER
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3623

DATE MAILED: 06/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/684,076

Applicant(s)

CHERNEFF ET AL.

Examiner

Johnna R Stimpak

Art Unit

3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-45 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The following is a final office action upon examination of application number 09/684,076. Claims 1-45 are now pending and have been examined on the merits discussed below.

Response

2. In response to applicant's argument that Mahapatro does not teach a plurality of products, Examiner does not give this limitation patentable weight. The claims is directed to scheduling development planning for a (singular) product in a group of products. The fact that the product is part of a group of products does not affect the schedule generation. The claims are written in such a way that all of the limitations are directed to gathering information about a single product and generating a schedule then repeating for another single product and compiling all the schedules. Therefore, Mahapatro's scheduling system for a product reads on the claim limitations and the prior rejections are upheld.

3. In another argument, applicant states that Mahapatro does not teach receiving a list of materials available from outside parties distinct from the enterprise. Examiner has brought in the Dietrich reference to show the obviousness of including material availability from an outside source when scheduling product development. New rejections are listed below.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 3623

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-45** are rejected under 35 U.S.C. 103(a) as being unpatentable over Mahapatro (US 6,571,215) in view of Dietrich(US 5,548,518), and further in view of Miller (US 5,408,663).

As per **claim 1**, Mahapatro teaches receiving a list of a plurality of products to be developed; receiving a list of required completion dates, each completion date specifying the completion date for the development of a corresponding product in the plurality of products (column 5, lines 11-24 – receives input the list of tasks that must be performed to complete the project and column 6, lines 33-44 – a constraint identifies when the project must be completed); receiving, for each product in the plurality of products, a project definition of a project for developing the product, each project definition defining: a plurality of tasks required to complete a project for developing the product associated with the project definition (column 5, lines 11-24 – tasks for each project and resources to be assigned are defined); and a list of resources required to complete each task defined in the product definition, receiving a list of available resources, each resource in the list of available resources having a capacity as a function of time (column 5, lines 11-44 – for each resource it is the amount of work that can be done in a certain time is determined); and automatically generating a development schedule comprising all tasks for all projects, the development schedule allocating the resources, the development schedule also scheduling tasks that require materials from outside parties at a time when such materials will be available.

Mahapatro teaches all of the limitations above and hints at the idea of including materials from outside sources (column 2, lines 1-8 – included are tasks that must be performed in a specific order and by specific parties – brick for the foundation, wood for the framing of the

Art Unit: 3623

house, etc), but does not explicitly teach receiving a list of materials available from outside parties distinct from the enterprise and a schedule of availability of the materials available from the outside parties; and the development schedule also scheduling tasks that require materials from outside parties at a time when such materials will be available.

Dietrich teaches a scheduling system wherein an external material availability schedule is used to determine if the material available will meet requirements in scheduling product development (column 3, lines 8-11; column 4, lines 40-45 – material from an external source is used to meet requirements in the product development). Since both Mahapatro and Dietrich teach a scheduling system wherein products are developed according to the availability of resources, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Dietrich's external availability schedule for materials into Mahapatro's scheduling system to account for all resources available to generate a specific product thereby increasing the efficiency of the scheduling system.

As per **claim 2**, the combination of Mahapatro and Dietrich teach taking into consideration a resource's expertise level for scheduling purposes, (column 12, lines 1-10) but does not expand on this idea. The combination does not explicitly teach each available resource is assigned an ability level, and wherein each task requiring a resource specifies a minimum ability level to be used for that task, and wherein the generated schedule allocates to all tasks, resources that have an ability level at least as high as the specified minimum ability level. Miller teaches each task having a skill level and each resource having particular skills that are used for allocating resources to tasks (column 1, lines 46-50 and column 2, lines 46-50). It would have been obvious to one of ordinary skill in the art at the time of the invention to schedule resources

Art Unit: 3623

to specific tasks based on skill level to make the best use of available resources and to utilize the specific skills of each resource to produce the best assignments.

As per **claim 5**, Mahapatro teaches each task is associated with a task definition comprising at least one of: type information identifying the type of task; hierarchy relationship information comprising one or more pointers to one or more related tasks and information regarding a sequence for performing related tasks; duration information specifying a quantity of time the task will take to complete; resource information specifying one or more resources to be used and a desired ability; and progress information specifying progress of the particular task (column 14, tables 3 lists a hierarchy of the resources associated with certain tasks and the duration it takes to complete).

As per **claim 6**, Mahapatro teaches the task definition further comprises scheduling requirements comprising one or more of: one or more constraints associated with the particular task; and policy information specifying one or more rules for enforcing the one or more constraints (column 5, lines 25-35 – assignments are generated based upon the task constraints associated with each task).

As per **claim 7**, Mahapatro teaches the one or more constraints comprise: one or more built-in constraints provided by the scheduler (column 12, table 1 – constraints built in to the system, standard scheduling constraints for a product); and one or more user-specified constraints (column 12 – human resources have scheduling constraints that would inherently be user specified such as the work schedule for the human resource).

As per **claim 8**, Mahapatro teaches a particular task comprises a plurality of subtasks, a task definition for the particular task specifying the plurality of subtasks and an order in which

Art Unit: 3623

the plurality of subtasks should be performed (column 13 and 14, table 1 and 2 – a hierarchy of tasks and resources are listed out. Each assignment in table 3 identifies a resource, a parent task. Table 2 shows order wherein task 2 must be started after task 1).

As per **claim 9**, Mahapatro teaches the plurality of tasks are defined in a hierarchy specifying relationships among related tasks, at least one task comprising a plurality of sub-tasks, each leaf tasks being associated with an identification of one or more resources for performing the leaf task (column 13 and 14, table 1 and 2 – a hierarchy of tasks and resources are listed out. Each assignment in table 3 identifies a resource, a parent task. Table 2 shows order wherein task 2 must be started after task 1).

As per **claim 10**, teaches a particular task in the plurality of tasks comprises a standard task for repeated use, the method further comprising storing a task definition for the particular task comprising a list of sub-tasks for performing the particular task and a list of resources for performing the sub-tasks in the list of sub-tasks.

As per **claim 11**, Mahapatro does not explicitly teach monitoring the materials identified in the list of materials from outside parties distinct from the enterprise using one or more supply chain tools operable to monitor the outside parties; and if one or more materials are determined to be unavailable using the one or more supply chain tools, automatically modifying the development schedule based on information obtained by the one or more supply chain tools. Dietrich teaches monitoring the material availability and if there is not sufficient material available, then the available resource will be allocated to the higher priority product and the schedule is changed (column 4, lines 40-45). Since both Mahapatro and Dietrich teach a scheduling system wherein products are developed according to the availability of resources, it

Art Unit: 3623

would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Dietrich's external availability schedule for materials into Mahapatro's scheduling system to account for all resources available to generate a specific product thereby increasing the efficiency of the scheduling system.

As per **claim 12**, the combination of Mahapatro and Deitrich teaches taking into consideration a resource's expertise level for scheduling purposes, (column 12, lines 1-10) but does not expand on this idea. The combination does not explicitly teach each available resource is assigned an ability level, and wherein each task requiring a resource specifies a minimum ability level to be used for that task, and wherein the generated schedule allocates to all tasks, resources that have an ability level at least as high as the specified minimum ability level. Miller teaches each task having a skill level and each resource having particular skills that are used for allocating resources to tasks (column 1, lines 46-50 and column 2, lines 46-50). It would have been obvious to one of ordinary skill in the art at the time of the invention to schedule resources to specific tasks based on skill level to make the best use of available resources and to utilize the specific skills of each resource to produce the best assignments.

As per **claim 13**, Mahapatro teaches the list of available resources is defined in a hierarchy specifying relationships among related resources, at least one resource comprising a plurality of sub-resources (column 12, lines 1-12 – resources have priorities wherein one resource would be ranked above another resource thereby setting up a hierarchy of resources).

As per **claim 14**, Mahapatro teaches receiving project status information from a user, the project status information regarding the status of a project in the plurality of projects; and automatically modifying the development schedule based on the project status information

(column 18, lines 57-67 – the schedule is displayed and project manager can view the status of the project, column 19, lines 1-15 – the schedule can be modified).

As per **claim 15**, Mahapatro teaches receiving resource status information from a user, the resource status information regarding the status of available resources in the list of available resources; and automatically modifying the development schedule based on the resource status information (column 19, lines 1-15 – based on additional information concerning changed, the system returns to process 2 wherein resources are assigned to tasks (column 13, lines 13-30)).

As per **claim 16**, Mahapatro teaches the resource status information comprises a change in the capacity of a resource (column 19, lines 1-15 when information is modified, the system goes back to process 2 wherein resources are assigned to tasks. It is inherent that a change in capacity of a resource is a common change that would occur that require a change in the schedule thereby affecting the status).

As per **claim 17**, Mahapatro does not explicitly teach automatically generating the development schedule using a genetic algorithm. However, it is old and well known to use genetic algorithms to solve scheduling problems. Genetic algorithms are useful in maximizing or minimizing an objective function within a set of constraints, thereby increasing the efficiency of the scheduling system.

Claims 3, 4 and 18-30 teach the system for performing the method of claim 1.

Claims 31-45 teach the software embodied in a computer-readable medium that is executed to perform the method of claims 1, 2 and 5-17.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johnna R Stimpak whose telephone number is 703-305-4566. The examiner can normally be reached on M-F 8am-5:30pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz can be reached on 703-305-9643. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3623

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Js

June 14, 2004



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